

THE EFFECT OF COMPOUND EXERCISES IN THE INTERVAL STYLE ON SOME PHYSICAL, SKILL AND FUNCTIONAL VARIABLES FOR YOUNG SOCCER PLAYERS

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Abstract

The importance of the research was manifested through the design of a proposed training curriculum in football for youth teams using a skilful physical exercise method based on interval training according to energy production systems, and thus standing on one of the basic and important training aspects and its role in the player's situation during the match, which is characterized by the performance of effort Alternating physical intensity between fast and strong movements associated with skills and tactical situations whose performance requires physical, skill and functional adaptations according to the impact of the proposed training curriculum and knowledge of the results of such studies, which helps in directing the operations of preparing young players according to sound scientific methods. The research problem emerged in how to link between skill and physical exercises by the method of interval training according to energy production systems and trying to find out the impact of this method on a section of the physical, skill and functional variables, which we consider a new and serious attempt to know the overlaps that occur when applying this method and the aim of the research is to prepare complex exercises (Skilful - physical) according to the interval training method, and to identify the effect of compound exercises (skill - physical) according to the interval training method on some physical, skill and functional variables for young soccer players. The researcher used the experimental method, and the research community was identified from the players participating in the Diwaniyah Governorate Clubs Championship, the youth category, in football for the 2021-2022 sports season, whose number is (40) players. They were divided into two groups, one experimental (16) and the other (16 control) groups. The first group, to which the training curriculum was applied, was selected using a lottery method, and the training curriculum was applied. The second group became a control group, which applied the curriculum approved by the trainer. The training curriculum was designed. The proposal, of exercises that include the physical and skilful sides, is based on the foundations of interval training, in which we relied on the first and second regions of the interval training regions, in a manner consistent with the football game, as "80% of this activity depends on the system (ATP-PC-LA), and the researcher concluded To the most important conclusions, which is that the training curriculum prepared by the trainer of the control group did not lead to its desired results, as it is irregular and does not depend on scientific foundations in developing training curricula, and the proposed training curriculum had its positive effects in improving the level of the experimental group sample in all physical variables. And the most recent training curriculum implemented by the experimental group developed compared to the control group, and also the exercises used in the first and second regions of the interval training areas have an effective role in developing the physical, skill and functional variables on the sample members of the experimental group. The most important recommendations are the use of the proposed training curriculum in training youth football teams in Iraq, rationing training loads according to scientific foundations,

adopting functional indicators as a basis for determining loads, stresses and rest periods, and focusing on the use of skilful physical exercises during training units for age groups and in the forms they use. Fits

1- Introducing the research

1-1 Introduction and the importance of the research:

Football is one of the games that has received increasing global attention because it is one of the most popular games in the world, and the development that took place in the international levels of football teams, which we touched dramatically during the last World Cup, came as a result of harmony and physical, skilful, tactical, physical and functional integration. This harmony and integration spontaneously and randomly, but rather came as a result of the coaches relying on the science of sports training based on other sciences, which achieve the best levels and results because "it has been scientifically proven that the response of the body's systems to sports training has a special importance in knowing the extent of physical and functional improvement for athletes" (Mahmoud, 1988 19), as well as the state of creativity, innovation and development in the methods and means of sports training through the use of the foundations and principles of sports training and the scientific planning required to prepare comprehensive training curricula

Football is one of the games that requires great scientific efforts. Knowing what accompanies the player's performance during the match is extremely necessary to see the effectiveness of the methods and training methods used, each of which has an impact on improving the performance of the players as a result of the occurrence of adaptations to the functional devices because "the training load is the primary method used." During the training program to influence the functional levels of the organs and organs of the human body to advance events, the rationing of pregnancy has become a necessary necessity to improve the level of sports" (Al-Beik, 1997, 20).

The research gained its importance through the design of a proposed training curriculum in football for youth teams in a skilful physical exercises style based on interval training according to energy production systems, and thus standing on one of the basic and important training aspects and its role in the player's situation during the match, which is characterized by the performance of effort Alternating physical intensity between fast and strong movements associated with tactical skills and situations whose performance requires physical, skill and functional adaptations according to the impact of the proposed training curriculum and knowledge of the results of such studies, which helps in directing the operations of preparing young players according to sound scientific methods.

1-2 Research problem:

Due to the researcher's field experience and after reviewing the scientific sources, he noticed that the coaches focus on developing physical fitness separately from developing motor skills, although the soccer player performs the movements of playing with or without the ball throughout the duration of the match, with rest periods between which recovery is restored, so Most of the studies and research conducted included the use of skill exercises in order to develop the skill aspects, and physical exercises for the purpose of developing the physical aspects.

Hence, the research problem arose in how to link between skill and physical exercises by the method of interval training according to energy production systems and trying to know the effect of this

method on some of the physical, skill and functional variables, which we consider a new and serious attempt to know the overlaps that occur when applying this method.

1-3 research objectives:

- 1- Preparing compound exercises (skill - physical) according to the interval training method
- 2- Identifying the effect of compound exercises (skill - physical) according to the periodic training method on some physical, skill and functional variables for young soccer players.

1-4 Research Hypotheses:

- 1- There are significant differences between the results of the pre and post tests in some physical, skill and functional variables of the experimental group.
- 2- There are significant differences in some of the results of the pre and post tests in some physical, skill and functional variables of the control group.
- 3- There are significant differences in some of the physical, skill and functional variables in the post-tests between the experimental and control research groups and for the benefit of the experimental group.

1-5 areas of research:

1-5-1 Human field: Youth football players under the age of 19 · for Al-Diwaniyah Sports Club for the football season 2021-2022.

1-5-2 Time range: for the period from 10/8/2021 to 11/12/2022

1-5-3 Spatial domain : Diwaniyah sports club stadium

1-6 Definition of Terms:

1- **The first region:** It represents the work area of the energy system (ATP-PC) in the manual for building the interval training program based on time and includes times (10s, 15s, 20s, 25s) as shown in Table (9).

2- **The second region:** It represents the power system work area (ATP-PC-LA) in the manual for building the interval training program based on time and includes times (0-30 seconds) (40-50 seconds) (1-1.10 seconds) (1.20 seconds)) as shown in Table (9)

2- Research methodology and field procedures

2-1 Research Methodology:

The researcher used the experimental approach, which is "the only research method that can truly test the hypotheses of the relationships of cause or effect" (Allawi, and Rateb, 1987, 377).

2-2 The research community and its sample:

The research community was selected from the players participating in the Al-Diwaniyah Governorate Clubs Championship, the youth category, in football for the 2021-2022 sports season, whose number is (40) players. One of them is an experimental number (16) and another is a control number (16). The first group was chosen, to which the training curriculum was applied using a lottery method, and the training curriculum was applied, and the second group became a control group, which applied the method approved by the coach. The researcher excluded the goalkeepers and players who were subjected to experiments The reconnaissance of the physical and skillful characteristics and the players who were subjected to the reconnaissance experiment of the experimental curriculum, which is (6) players

2-3- Homogeneity and Equivalence:

Homogeneity and equivalence were made between the experimental and control groups
According to the variables that were adopted in the research, as in Table (1)

Table (1) Statistical parameters and the value of (T) for the variables of physical and skill traits for the two research groups

Statistical parameters Variants	control group		experimental group		Calculated t-value
	SD	AD	SD	AD	
explosive power / cm	40.81	1.94	40.88	1.75	0.1
Power throw/sec	59.85	1.25	59.90	1.26	0.1
Speed- related power(right leg)	6.94	0.36	6.94	0.49	0.03
Speed- related power(left leg)	7.13	0.23	7.11	0.29	0.26
Maximum speed/s	6.96	0.23	7.02	0.18	0.72
Speed throw /sec	36.74	1.84	36.22	1.54	0.88
Passing/degree	2.81	1.22	2.94	0.93	0.33
Rolling/sed	22.81	0.60	22.93	0.54	0.60
Scoring/degree	9.06	1.53	9.31	1.25	0.51
Ball control/number	35.63	5.74	35.19	2.83	0.27
Put down/degree	3.75	0.77	3.81	0.75	0.23
Heading /number	13.94	2.11	14	2.48	0.08

Tabular (T) value at an error rate $\geq (0.05)$ and a degree of freedom (30) = 2.04

2-4 Tests used:

For the purpose of the researcher finding the tests that he adopted in his research, the content analysis method was used for various sources in the football game, sports training, and research that used physical, skill and functional traits tests.

2-4-1 Physical tests used to measure the elements of physical fitness:

- 1- **The partridge test on one leg 30 m:** to measure the strength that is distinguished by speed (Al-Rubaie and Al-Mawla, 129, 1988).
- 2- **Vertical jump up:** to measure explosive power (Hassanin, 1995, 395).
- 3- **The 180-meter run test, rebounded with four signs, the distance between one person and another is 15 m:** to measure the length of the speed (Al-Khashab, 1984, 44)
- 4- **The continuous hopscotch test with both feet together to cover the largest distance per minute:** to measure the length of the force (Naji and Bastawisi, 1987).
- 5- **A 50-meter run test from a standing position:** to measure the maximum speed (Ismail et al., 133, 1991).

2-4-2 Skill tests used to measure the skill aspect:

- 1- **Ball control test:** to measure the ability to control the ball in the air within 30 seconds with all parts of the body except for the hands (Al-Khashab, et al., 1999, 219).
- 2- **The ball rolling test:** to measure the ball rolling (Majid, 1989, 316)
- 3- **Testing the accuracy of passing the ball towards a goal drawn on the ground:** to measure the accuracy of handling (Al-Khashab, 9, 1990).

- 4- **Test kicking the ball at a goal:** to measure the accuracy of scoring (Al-Khashab, et al., 1999, 214).
- 5- **The control test by stopping the movement of the ball from moving from a distance of 6 m inside a square of 2 m:** to measure the accuracy in stopping the ball and regaining control over it with the foot, chest, thigh, or head. (Al-Khashab, et al., 1999, 209-210)
- 6- **Test hitting the ball with the head for 15 seconds without it falling to the ground:** to measure hitting the ball with the head (Kamel, Al-Rubaie, B, T, 152)
- 2-4-3- Functional tests used to measure functional aspects:**
- 1- **Testing the number of breathing times during rest.**
 - 2- **Testing the number of respirations after exertion.**
 - 3- **Resting heart rate test.**
 - 4- **Testing the heart rate after exertion.** (Saad Al-Din, 2000, 135-145)
 - 5- **Heart rate test after recovery 1 minute, 2 minutes** (Al-Shaikhly, 2000, 62).
 - 6- **Testing the maximum value of oxygen consumption VO2 Max after running a mile and a half** (Gene M.Adams, 1990, 25).

2-5 Experimental Design:

The researcher used the experimental design, which is called "the design of equal groups, random selection with pre and post test" (Al-Ghannam and Al-Zubaie, 1981, 102-112).

2-5-1 Independent Variables:

It is (exercises designed according to the interval method), where the researcher used a set of exercises for the football game, which included the physical and skillful sides, which were designed according to the division that came in the book (Fox and Mathews) on the basis of time. Where the researcher used the work areas of the first and second regions of the energy production systems, and the training curriculum was designed in light of it, which lasted for a period of (8) eight weeks, at the rate of two training units per week, and a load movement (1:3) for the intermediate courses.

2-5-2 dependent variables:

It included:

Physical variables. skill variables. functional variables.

2-6- Scientific foundations of the tests:

The tests used under study are some of them codified through their use on the Iraqi society according to scientific sources, and others are not codified, which requires the researcher to verify their validity by finding the truth, stability and objectivity of them in order for the scientific foundations to be available and qualify the researcher to use them as shown in Table (2).

Table (2) Scientific basis for the tests used

	scientific terms the test	constancy	Self honesty	objectivity
1	The accuracy of passing the ball towards a goal drawn on the ground	0.85	0.92	0.95
2	Kick the ball at the goal	0.87	0.93	0.92
3	Head the ball for 15 seconds without it falling to the ground	0.92	0.96	0.94
4	Continuous partridges with two feet to cover the largest distance per minute	0.83	0.91	0.97
5	Run a mile and a half	0.90	0.95	0.92

2-7- Data collection methods:

Academic sources and references. - the questionnaire. Measurements and tests.

2-8- Equipment and tools used:

An electronic device for measuring length. A sensitive device for measuring mass. - Stopwatches that measure time to the nearest 1/100 of a second (No. 5). Measuring tape. - Number (30) indicators. - Balls number (20).

2-9- Exploratory Experiments:

2-9-1 Experimental Experiment of Physical and Skill Attributes Tests:

It was conducted on 10/1/2021 on a sample of (6) players from The research community was chosen randomly, and the aim of this experiment was: Ensure the validity of the devices and tools used. Adequacy of the support staff and their understanding of the workflow. Knowing the obstacles that may appear and avoiding the occurrence of errors.

3-9-2 Exploratory experience of the training curriculum:

The researcher, with the help of the team coach, conducted two reconnaissance training units on (6) players from the research community on 3-4/10/2021. Ensure the rest periods between. - Ensure the intensity of the exercise through appropriate repetitions and matching it with the pulse. Knowing the obstacles and difficulties that occur and avoiding the occurrence of errors.

2-10- Training Curriculum:

The proposed training curriculum was designed from exercises that include the physical and skill sides based on the foundations of interval training, in which we relied on the first and second regions of the interval training areas and in a way that matches the football game, as "80% of this activity depends on the system (ATP-PC- LA)" (Hossam El-Din, 1997, 225) because "the energy system required for any physical activity is determined in light of the time of effort and the rate of energy consumption in this activity, and one of the basic principles for building any training curriculum is the need to determine the energy production system used in order to distribute Physical loads in its light" (Hossam El-Din, 1997, 224). (40-50 seconds (four exercises)), so that the number of exercises designed in the curriculum becomes (18) exercises, and as shown in Appendix (15), and they were distributed in the training units in a consistent and appropriate manner, taking into account the percentages of agreement reached by the experts regarding of the research variables, and in a way that guarantees a comprehensive development of all the physical, skill and functional variables under study and in a manner commensurate with the level of the research sample and the training stage, so that we ensure that one training unit includes its exercises working in the first and second regions and for different times and was divided into eight weeks and at the rate of two training units per week and ripple movement movement (1:3), and in two medium sessions, taking into account the gradual method of loads and the intensity of training based on the areas of the energy systems.

Table No. (3) Shows the evidence for adopting the proposed training curriculum

	Time Sec.	total redundancy	Partial redundancy	Rest	Groups number	Total working time	total rest time	Grand total per sec.	Grand total per min.	Rest between groups
1	10	50	6	30	1	60	150	210	3.50	3
2	15	45	6	45	1	90	225	315	5.25	3
3	20	40	5	60	1	100	240	340	5.6	3
4	25	32	4	75	1	100	225	325	5.4	3
5	30	25	4	90	1	120	270	390	6.5	3
6	40	20	3	120	1	120	240	360	6	4
7	50	20	3	150	1	150	300	450	7.5	4
8	60	15	2	180	1	120	180	300	5	5
9	80	10	1	-	1	80	-	80	1.2	5

2-11- The main experience:

2-11-1 Pre-tests:

The researcher conducted the pre-experiment for the specific tests on 10-11/10/2021 on the research sample at the Diwaniyah Sports Club Stadium, where the tests were conducted over a period of two days and as follows:

The first day included: a. The following skill tests: control + handling + rolling. B. The following physical tests: maximum speed + strength characteristic of speed + prolonged strength.

The second day included: a. The following skill tests: scoring + suppression + dribbling the ball with the head. B. The following physical tests: explosive power + agility + speed endurance + endurance of the circulatory and respiratory systems, through which the VO2MAX values were extracted. C. The following functional tests: the number of breathing times during rest + the number of breathing times after exertion + the number of pulse times during rest + the number of pulse times after exertion + the heart rate in the recovery phase after (1) minutes and (2) minutes.

2-11-2 Post-tests:

The post-test was conducted on the research sample, after completing the implementation of the training program, in order to determine the level of physical, skill and functional variables that the research sample reached for a period of two days and for the period from 10-11/12/2021 and in the same context used in the pre-test

2-12- Statistical means: The researcher used the statistical bag (Spss).

3- Presentation, analysis and discussion of the results

3-1 Presentation, analysis and discussion of the results of physical variables:

3-1-1 Presentation, analysis and discussion of the results of the control and experimental groups in the pre and post test:

Table (4) Statistical parameters of the pre and post tests of the variables of physical characteristics of the control group

Variants	Group	Pre test		Post test		Calculated T value
		SD	AD	SD	AD	
Partridge on one leg (right leg) (meter).	Control	6.94	0.36	6.90	0.41	0.64
	Experimental	6.94	0.49	6.41	0.30	4.82*
Partridge on one leg (left leg) (meter).	Control	7.13	0.23	7.13	0.19	0.07
	Experimental	7.11	0.29	6.87	0.20	3.66*
Vertical jump up (cm).	Control	40.81	1.94	41.31	1.85	1.46
	Experimental	40.88	1.75	43.81	2.04	7.49*
Run 180m (s)	Control	36.74	1.84	36.50	1.88	1.28
	Experimental	36.22	1.54	34.58	1.23	9.75*
Continuous partridge with two feet to cover the largest possible distance per minute (meter)	Control	59.86	1.25	59.90	1.26	1.59
	Experimental	59.90	1.26	61.06	0.98	4.03*
Run 50m from standing (sec.)	Control	6.69	0.23	6.94	0.17	1.07
	Experimental	7.02	0.18	6.77	0.25	3.13*
Run a mile and a half (1 minute)	Control	11.33	0.51	11.21	0.40	1.42
	Experimental	11.28	0.44	10.63	0.34	6.33*
Running test between the pillars for a distance of 7 m (sec.)	Control	9.23	0.72	9.29	0.69	0.94
	Experimental	9.10	0.84	8.77	0.77	3.78*

Tabular t-value at an error rate $\geq (0.05)$ and a degree of freedom $(15) = 2.18$

Table No. (4)) shows that the calculated (t) value for the above tests is less than the tabular (t) value of (2.18) against a degree of freedom (15) and at an error rate of ≥ 0.05 , and this indicates that the differences are not significant for all tests.

The researcher attributes the reasons for the non-significant differences that appeared in the partridge test on one leg and the vertical jump up test, which measure the strength characteristic of speed and explosive power, "to that strength is the basis for all the player's motor abilities, because it greatly affects the speed of movement and its activity, and it is related to speed and length and flexibility" (1984, 5) because these two qualities are distinguished in the case of expressing the state of interdependence between physical attributes, as these two terms arise from the interdependence of the qualities of strength and speed "and appear during muscular work in the state of domination and resistance and linking between them" (Hussein, Nassif, BT, 84) and that these two characteristics have a very important impact because they are "one of the requirements for determining the level of many bilateral movements" (Hussein, Nassif, BT, 85) and this is what was lacking in the exercises used by the coach, as he focused on playing training From what the results came to this picture.

Table (4) shows that the calculated (t) value for the study tests is greater than the tabular (t) value of (2.18) in front of a degree of freedom (15) and at an error rate of ≥ 0.05 , and this indicates that the differences are significant in favor of the post-test

The researcher attributes the reasons for the significant differences that appeared in the partridge test on one leg and the vertical jump up test, which measure the characteristics of the strength characteristic of speed and explosive force, to the development of these two characteristics among the

members of the experimental group and can be attributed to the reasons for organizing the proposed training curriculum. The training process depends on its organization, which creates a state of The development in the level of performance of the players through the harmony of the proposed training curriculum with the capabilities and abilities of the members of the research sample (the experimental group), and as a result, positive development appeared for them, and this is confirmed by (Hussein) in that the training process is "that continuous organized process that gives the individual knowledge, skill, or ability Or ideas or opinions necessary for performing a specific work or achieving a specific goal, as well as achieving organizational goals and adapting to work and providing the individual with certain information, skills, or mental attitudes necessary in the organizational point of view to achieve the goals of the institution" (Hussein, 1998, 178) and this is what it showed The results of the experimental group, as the curriculum affected their physical performance in a significant way, which indicates the improvement of the physical aspect, which is of great importance to the football player, and it is an essential feature of modern play.

The researcher attributes the reasons for the significant differences that appeared in the two partridge tests with both feet to cover the largest distance per minute and the 180-runner run test, which measure the characteristic (special table tennis) to that "training on private table tennis is necessary to achieve tangible athletic development in the specified distance, as it creates appropriate conditions to absorb effective technique and technique for the sport Al-Mukhtara" (Majid, 1988, 266), and since the researcher has used interval training that relies on functional indicators through recovery, as rest periods are specified and re-exercise again, so the results were positive and this is consistent with the study he conducted (Majid et al. They concluded that "intense interval training with short rest periods is the best method for developing special stature among eight training methods that have been used" (Majid, et al., 1987, 170), because interval training serves "mechanical integration of oxygenic and anoxic stature" (Hussein, 1988 , 266)

3-1-2- Presentation, analysis and discussion of the post-test results for the control and experimental groups

Table (5) Statistical parameters of the post-test of the variables of physical characteristics of the control and experimental groups

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
Partridge on one leg (right leg) (meter).	6.90	0.41	6.41	0.30	3.89*
Partridge on one leg (left leg) (meter).	7.13	0.19	6.87	0.20	3.71*
Vertical jump up (cm).	41.31	1.85	43.81	2.04	3.63*
Run 180m (s)	36.50	1.88	34.58	1.23	3.43*
Continuous partridge with two feet to cover the largest possible distance per minute (meter)	59.90	1.26	61.06	0.98	2.91*
Run 50m from standing (sec.)	6.94	0.17	6.98	0.83	2.29*
Run a mile and a half (1 minute)	11.21	0.40	10.63	0.34	4.37*
Running test between the pillars for a distance of 7 m (sec.)	9.29	0.69	8.77	0.77	2.05*

Significant at an error rate $\geq (0.05)$ against a degree of freedom (30), tabular (t) value = (2.04)

Table 14 shows that the value of (T) calculated for the post-study tests is greater than the tabular (T) value of (2.04) in front of a degree of freedom (30) and at an error rate of ≥ 0.05 , and this indicates that the differences are significant.

Table (14) shows that the differences were significant in the results of the post-tests between the control and experimental groups for all tests and in favor of the experimental group.

The researcher attributes the reasons for these differences to the overall selected physical characteristics under study due to the effectiveness of the proposed training curriculum in the method of interval training prepared according to scientific foundations, taking into account the intensity and intensity of exercise and the intervals of rest in a manner consistent with the capabilities and capabilities of the members of that group (the experimental group), which confirms the validity of planning for this curriculum. In achieving its objectives and the duties set for it, as "football training must be distinguished by planning, organizing and continuing on scientific bases, which ensures with it the positive impact on the level of the player and his continued progress in the various aspects of football as the principle of gradual increase in the load and the correct timing for its repetition" (Ismail and others 1989, 17).

3-2 Presentation, analysis and discussion of the results of the skill variables:

3-2-1 Presentation, analysis and discussion of the results of the control group:

Table (6) Statistical parameters of the pre and post tests of the variables of skill traits of the control group

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
Scoring on a divided goal (score) - (scoring)	9.06	1.53	9.75	1.44	1.52*
Controlling stopping the ball from a distance of 6m (degrees) - (put down)	3.75	0.77	4.06	0.77	1.05*
Accuracy of passing the ball on a drawn target (degrees) - (passing)	2.81	1.22	3.12	0.72	0.96*
Control 30 seconds (number) - (dribble the ball in the air)	35.63	5.74	36.63	4.46	1.66*
curved run with the ball (sec.) - (roll)	22.81	0.60	22.69	0.47	0.86*
Heading the ball (number)	13.94	2.11	14.50	1.67	1.58*

Tabular t-value at an error rate $\geq (0.05)$ and a degree of freedom (15) = 2.18

Table (6) shows that the calculated (t) value for skill tests is less than the tabular (t) value of (2.18) against a degree of freedom (15) and at an error rate of ≥ 0.05 , and this indicates that the differences are not significant.

Table (15) shows that there are no significant differences between the results of the pre and post tests for the scoring test at a divided goal, because there is no use of the individual method in scoring during training for the approach followed by the trail, as this skill can be developed by applying the following rules: The exercises shall be conducted in conditions similar to those of the competition.

1- Using high and ground scoring types. 2- At the beginning of learning to score, you must focus on accuracy and gradation to reach strong dynamic scoring. (Al-Rubaie, and Al-Mashhadani, 1991, 181) It is necessary to build the training units according to what was mentioned above, as the "acquired skills" are continuously developed and refined, and attention must be paid at this stage to teaching the correct technical performance of each skill, fragmenting it, and simplifying the auxiliary exercises to implement the skill in question. Then linking these parts of the exercises so that in the end they form an integrated unit and the coach has to correct the errors that the player makes during implementation, as acquiring the wrong motor adaptation at the beginning is difficult to correct in the next stages" (Goutouq, 1995, 80).

Modern training focuses on the scoring skill and considers it "one of the most important goals of the players' daily training, or the success of the match may depend on one decisive moment in which the player shoots the ball at the opponent's goal and scores a goal" (Mukhtar, BT, 187). It is worth noting that the results of this study agree With the results of a study conducted by (Al-Khashab and Al-Bayati), as it was concluded that the error rate in scoring is 68% (Al-Khashab and Al-Bayati, 1986, 144-148) and in another study conducted by (Al-Sheikhly) to evaluate the scoring cases and their relationship to the goals scored in football on the teams participating in the Umm Championship Football battles for the Iraqi football season 1998-1999, as it concluded that there was no correlation between scoring cases and goals scored (Al-Sheikhly, 148, 1998).

Table (15) shows that there are no significant differences between the results of the pre and post tests to test the accuracy of passing the ball on a drawn goal, which measures us the handling skill, and the researcher attributes the reasons for this to that "all the elements of the team numbers must be integrated and all work in a line One is to achieve the main objective of its work, which is the appearance of the team in a good appearance and obtaining a satisfactory status according to its conditions in the competition in which it participates" (Hussein, 1987, 24).

And that the process of skill numbers aims to "teach basic and motor skills and try to master and fix them for the purpose of reaching the best possible level in football through the various exercises that the coach plans and implements on the field (Al-Wahsh, and Muhammad, 1994, 19), and the organizational foundations are also important. They are great in sports training, so the training must be "suitable during field training because it helps build the foundations of technique and improve physical characteristics" (Hussein, 1987, 24).

3-2-2 Presentation, analysis and discussion of the results of the experimental group:

Table (7) Statistical parameters of the pre and post tests of the variables of skill traits of the experimental group

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
Scoring on a divided goal (score) - (scoring)	9.31	1.25	11.00	1.32	6.65*
Controlling stopping the ball from a distance of 6m (degrees) - (put down)	3.81	0.75	5.25	1.00	5.96*
Accuracy of passing the ball on a drawn target (degrees) - (passing)	2.94	0.93	4.25	1.34	5.55*
Control 30 seconds (number) - (dribble the ball in the air)	35.19	2.83	40.31	3.94	5.62*
curved run with the ball (sec.) - (roll)	22.93	0.54	22.25	0.53	4.44*
Heading the ball (number)	14.00	2:48	16.19	2.29	2.38*

Significant at an error rate (0.05) against a degree of freedom (15), tabular (t) value = (2.18)*

Table (7) shows that the (T) value calculated for the tests (scoring at a divided goal, controlling stopping the ball from a distance of 6 meters, passing the ball accurately on a drawn goal, controlling the ball 30 seconds, running zigzag with the ball, and hitting the ball with the head) was on respectively (6.65, 5.96, 5.55, 5.62, 4.44, 2.38), which is greater than the tabular (T) value of (1.75) against a degree of freedom (15) and at an error rate of ≥ 0.05 , and this indicates that the differences are significant. It is clear from Table No. (16) that there are significant differences between the results of the pre and post tests to test the accuracy of scoring at a divided goal, which measures the scoring skill, and the researcher attributes the reasons for this to the consideration of the proposed training curriculum to this skill, which sought to provide an adequate opportunity to develop it, and this is confirmed by (Mohsen and Naji) that "the daily regular training unit must contain a form of scoring exercises" (Mohsen, and Naji, 128, 1984), so the success of any method is by focusing on following scientific methods according to the use of means and methods that serve Installing this skill, because "many of the technical movements do not succeed because of the weakness of the technique" (Bati, 1982, 84).

The high skill level contributes to reducing this loss of ability on the one hand, and on the other hand, the stability of the high technical level throughout the duration of the match is related to good physical condition, and the same thing if the physical build is not sufficient, then the strength and ability to launch and the endurance of the player decline during the match with accompanying weakness in Technical performance and as a result of weakness in physical fitness, it increases and rises with the progress of the game time, and the greater the fatigue of the player, the more he falls from the level of his motor skills, especially those that need compatibility in performance (Goutouq, 1995,81).

The research sample for this group, and as shown by the results of the physical tests, has developed, and this confirms the interdependence between the physical attributes and the skillful attributes. (1999, 279).

It is also clear from the table itself that there are significant differences between the results of the pre and post tests to test the accuracy of passing the ball on a drawn goal, which measures us the skill of handling. A mathematical level is possible in a specific type of sporting activity" (Majid, 12, 1988) according to "a set of planned procedures based on scientific foundations that are implemented according to specific conditions and directed to achieve a goal or purposes in a field" (Al-Basati, 2, 1998).).

3-2-3 Presentation, analysis and discussion of the results of post-tests for the skills variables of the experimental and control groups:

Table (8) Statistical parameters of the post-test of skill traits variables for the control and experimental groups

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
Scoring on a divided goal (score) - (scoring)	9.75	1.44	11.00	1.32	2.56*
Controlling stopping the ball from a distance of 6m (degrees) - (put down)	4.06	0.77	5.25	1.00	3.76*

Accuracy of passing the ball on a drawn target (degrees) - (passing)	3.12	0.72	4.25	1.34	2.96*
Control 30 seconds (number) - (dribble the ball in the air)	36.63	4.46	40.31	3.94	2.48*
curved run with the ball (sec.) - (roll)	22.69	0.47	22.25	0.53	2.50*
Heading the ball (number)	14.50	1.67	16.19	2.29	2.38*

Significant at error rate $\geq (0.05)$ mmm, degree of freedom (30), tabular (t) value = (2.04)*

Table (8) shows that the (T) value calculated for the tests (scoring at a divided goal, controlling stopping the ball from a distance of 6 meters, passing the ball accurately on a drawn goal, controlling the ball 30 seconds, running zigzag with the ball, and hitting the ball with the head) was on respectively (2.56, 3.76, 2.96, 2.48, 2.50, 2.38), which is greater than the tabular (t) value of (2.04) against a degree of freedom (30) and at an error rate of ≥ 0.05 , and this indicates that the differences are significant in favor of the experimental group.

Through table (17) it is clear that the differences were significant between the results of the post-tests for the control and experimental groups and for all tests. The researcher attributes the reasons for these differences and for the overall selected skill traits under study to the fact that "the goal of skill numbers is to acquire and master all the basic skills of the game, as the good application of skills helps To perform with less effort and not to expose the player to injury, and in the football game, the player cannot implement the skillful performance in the required manner except by mastering the skill aspects, which in turn affects the tactical and physical ability of the players. Therefore, he emphasizes during training the performance of the skill or giving enough time in order to master it well. (Hara, 1975, 24) And (Al-Mandalawi) pointed out that "the game of football contains many technical skills, so the skill side takes a long time from the work of training time, and the mastery of basic skills by the players is related to the degree of their comprehension and mental capabilities, and that The high level of the skill side of football players appears through making quick decisions on how to drive the ball and tackles, as well as with regard to different attempts to play" (Al-Mandalawi, 1982, 71) and Sergeant agrees with that, "The player of team games must not only master the basic skills, but must He has the ability to respond to changes in different circumstances" (Singert, 1980, 19), while (Amish) indicated that "the team players who are fluent in handling all kinds and accurately can achieve good results that qualify them to occupy advanced positions in domestic and foreign tournaments" (Amish, 1990 , 32). The skills in football are no less important than the other, so scoring is one of the means of individual attack that the player is armed with to hit the opponent's goal, "because the ultimate goal in the football game is to get the ball into the opponent's goal and the player who is good at scoring from various locations In all cases, he is watched by the opposing team, so he must have high skill, field intelligence, ability to focus, high confidence, strong will, and responsibility" (Mahmoud, 1989, 35).

3-3 Presentation, analysis and discussion of the results of the functional variables:

3-3-1 Presentation, analysis and discussion of the results of the control group:

Table (9) Statistical parameters of the pre and post tests of the functional variables of the control group

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
The number of times you breathe while at rest	16.62	0.88	16.37	0.50	1.29
The number of breaths immediately after the effort	45.94	1.77	46.06	1.29	1.58
The number of pulse times at rest	64.94	2.21	64.06	1.77	1.51
The number of pulse times immediately after the effort	193.38	3.98	192.63	2.80	1.00
Recovery after 1 minute (beats/min)	152.75	3.34	152.38	2.66	0.54
Recovery after 2 minute (beats/min)	126.50	3.61	125.75	3.09	1.06
VO2max (ml/kg/min)	45.25	2.52	45.44	2.25	0.23

Tabular (T) value at an error rate $\geq (0.05)$ and a degree of freedom $(15) = 2.18$

Table (9) shows that the value of (T) calculated for the tests (the number of breathing times during rest, the number of breathing times after effort, the number of pulse times during rest, the number of pulse times after effort, recovery after one and two minutes, and the vo2max measurement) was respectively (1.29, 1.58, 1.51, 1.00, 0.54, 1.06, 0.23), which is less than the tabular (T) value of (2.18) against a degree of freedom (15) and at an error rate of ≥ 0.05 , and this indicates that the differences are not significant.

Through Table (18), it is clear that there are no significant differences between the results of the pre and post tests of the functional indicators under study, all of which are for the control group. Likewise, training load without studying the physiological effects on body load and taking into account the different conditions often leads to injuries that appear during the training season" (Abdel-Fattah and Shaalan, BT, 21).

In view of the specificity imposed by the football game on the effects of the training loads due to the comprehensive play of the modern ball, the coach had to see the effects of the physiological aspects in order to be able to formulate, define and ration the training load in a way that suits the nature of his players, especially at this age, so that training does not lead to negative functional repercussions. "The great link between the nature of performance in football and the physiological changes accompanying this performance, which must be studied and found on the principles of its development, is clear when preparing daily, weekly and monthly training units and during the training season" (Abdel-Fattah, Shaalan, BT, 21).

And (Abdel-Fattah) agrees with that, as "the objectives of the training unit cannot be achieved if they are carried out far from the applications of the energy production system, just as the level of the athlete cannot develop unless the training programs are directed to develop the energy production system that depends on it during the competition" (Abdel-Fattah, 1997, 30).

3-3-1 Presentation, analysis and discussion of the results of the experimental group:

Table (10) Statistical parameters of the pre and post tests of the functional variables of the experimental group

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
The number of times you breathe while at rest	16.56	0.63	15.81	0.40	3.87*
The number of breaths immediately after the effort	45.81	1.64	44.44	1.50	4.79*
The number of pulse times at rest	65.00	2.10	62.06	1.69	5.48*
The number of pulse times immediately after the effort	193.88	3.38	189.50	2.48	7.50*
Recovery after 1 minute (beats/min)	152.25	2.91	149.13	2.19	4.75*
Recovery after 2 minute (beats/min)	126.00	3.58	123.25	3.00	3.47*
VO2max (ml/kg/min)	45.56	2.63	49.19	1.72	6.29*

Significant at an error rate $\geq (0.05)$ against a degree of freedom (15), tabular (t) value = (2.18)* Table (10) shows that the (T) value calculated for the tests (the number of breathing times at rest, the number of breathing times after effort, the number of pulse times during rest, the number of pulse times after effort, recovery after one and two minutes, and the vo2max measurement) was respectively (3.87, 4.79, 5.48, 7.50, 4.75, 3.47, 6.29), which is greater than the tabular (t) value of (2.18) against a degree of freedom (15) and at an error rate of ≥ 0.05 , and this indicates that the differences are significant. It is shown in the table (19) There are significant differences between the results of the pre and post tests of the experimental group of the functional indicators under study. The researcher attributes the reasons for this to the improvement of the functioning of the circulatory and respiration systems resulting from the scientific use of building the vocabulary of the proposed training curriculum, which was built on the basis of interval training through "variables that determine the state of Building on that approach is:

1- Intensity and working hours. 2- The number of repetitions and totals in the training unit. 3- The duration of the rest period. 4- The type of activity practiced during the rest period (positive, negative, mixed). , Mathews) "Since it is the performance time of the activity that determines the dominant energy because the relationship between the dominant energy system and the time of performance is an essential thing to know the effective design of work periods within the interval training program, while (Cardlin) indicates that interval training confirms that the optimal identification of rest periods It will better enable the athlete to train, and (Blanov) agrees with him that the length of the rest period between exercises and the intensity are the most important factors affecting the effects on the vital aspect of the athletes, while (Rindel) asserts that interval training is a typical way to raise the functional efficiency of the work of the heart and blood capillaries and improve Vital capacity and the ability to perform more repetitions with intermittent rest" (Al-Wedyan, 128, 1999).

3-3-1 Presentation, analysis and discussion of the post-test results for the control and experimental groups:

Table (11) Statistical parameters of the post-test of functional variables for the control and experimental groups

Statistical parameters Variants	Pre test		Post test		Calculated T value
	SD	AD	SD	AD	
The number of times you breathe while at rest	16.37	0.50	15.81	0.40	3.50*
The number of breaths immediately after the effort	46.06	1.29	44.44	1.50	3.28*
The number of pulse times at rest	64.06	1.77	62.06	1.69	3.27*
The number of pulse times immediately after the effort	192.63	2.80	189.50	2.48	3.34*
Recovery after 1 minute (beats/min)	152.38	2.66	149.13	2.19	3.78*
Recovery after 2 minute (beats/min)	125.75	3.09	123.25	3.00	2.32*
VO2max (ml/kg/min)	45.44	2.25	49.19	1.72	5.30*

Significant at an error rate $\geq (0.05)$ against a degree of freedom (15), tabular (t) value = (2.18)* Table (11) shows that the value of (T) calculated for the tests (the number of breathing times during rest, the number of breathing times after effort, the number of pulse times during rest, the number of pulse times after effort, recovery after one and two minutes, and the vo2max measurement) was respectively (3.50, 3.28, 3.27, 3.34, 3.78, 2.32, 5.30), which is greater than the tabular (t) value of (1.69) against a degree of freedom (31) and at an error rate of ≥ 0.05 , and this indicates that the differences are significant and in favor of the experimental group. From Table (20), it is clear that there are significant differences between the results of the post-tests of the control and experimental groups in favor of the experimental group.

1- Delaying the onset of fatigue. 2- Rapid recovery. 3- Increase the volume of training. 4- The development of the oxygen system and the capacity of the heart. (Majid, 1995, 592)

Since football training "aims to:

1- Increased oxygen air transportability. 2- Increasing the ability of muscles to use oxygen during prolonged activity. 3- Increasing the ability to recover quickly after a period of high-intensity activities" (Al-Mawla, 141, 1999).

Training by the interval training method leads to the achievement of these goals, and this is confirmed by (Al-Khashab) that "the use of interval training has been a great success in football training, as various researches have shown that certain differences appear with regard to the intensity of the load between the players of the team" (Al-Khashab, et al., 435-432, 1999) because "interval training aims to prepare the body and improve the condition of its organs and devices so that it works in appropriate conditions that help it raise the level of its physical readiness" (Hafez, 1963, 257) and since interval training is built on the basis of an organized sequence between pregnancy and periods of rest The load that is determined by a certain intensity for the period of time that that stimulus takes must be

given a rest period commensurate with the type of new stimulus, and the purpose lies in giving the rest period to qualify the body's systems for the new stimulus and get rid of the accumulations accompanying the previous stimulus, such as the accumulation of lactic acid that impedes the work of the muscle Among the stimuli that can be relied upon, such as the state of adaptation at the beginning of the effort, is an increase in the heart rate and respiratory rate, which are responses or reactions that have a temporary effect. Or to the stress that the athlete is exposed to, which is called the immediate functional adaptation" (Al-Shaikhly, 53, 2003).

5- Conclusions and recommendations

5-1 Conclusions:

From the results of the study, the researcher reached the following:

- 1- The training curriculum prepared by the trainer of the control group did not lead to the desired results, as it is irregular and does not depend on scientific foundations in developing training curricula.
- 2- The proposed training curriculum had positive effects in improving the level of the experimental group sample in all physical, skill and functional variables.
- 3- The training curriculum implemented by the experimental group was more advanced compared to the control group.
- 4- The exercises used in the first and second regions of the interval training regions have an effective role in developing the physical, skill and functional variables on the sample members of the experimental group.

5-2 Recommendations: The researcher recommends the following:

- 1- Using the proposed training curriculum in training youth soccer teams in Iraq.
- 2- Rationalization of training loads according to scientific foundations, and the adoption of functional indicators as a basis for determining loads, stresses and rest periods.
- 3- Focusing on the use of skillful physical exercises during training units for age groups and in the forms that suit them.
- 4- The administrative bodies in the clubs should give sufficient attention to the age groups by providing the devices and tools used to implement the training units and as needed by the coach.

Sources :

1. Mahmoud Farhan Hassan Al-Dulaimi: Sports Football, Friday Diyala College of Physical Education, 2011.
2. Mowaffaq Majeed Al-Mawla: Career Preparation for Football, Iraq, Dar Al-Fikr for Publishing and Distribution, 1999.
3. Zuhair Qassem Al-Khashab, Muhammad Khader Al-Hayani, Maher Al-Bayati. Football, 2nd edition, Mosul, University of Mosul, 1999.
4. Qassem Hassan Hussein, The Comprehensive Sports and Physical Encyclopedia in Games, Events and Sports Sciences, Dar Al-Fikr for Printing, Publishing and Distribution, Amman, 1988

5. Hanafi Mahmoud Mukhtar. Scientific foundations in football training. Cairo, Dar Al-Fikr Al-Arabi, 1997
6. Qassem Hassan Al-Mandalawi and Ahmed Saeed, quoted by Saad Mohsen, Sports Training between Theory and Practice, Alaa Press, Baghdad, 1979
7. Developing other training curricula according to the use of other areas of the energy systems and in other proportions.